Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Laboratory Results

Total pages in data package: 9

Lab Sample #	Client Sample ID
P0902263-01	HTSA-0197-HVW-002 -0209

Microseeps test results meet all the requirements of the NELAC standards or provide reasons and/or justification if they do not.

Approved By: Rachel Whitby ***Date:*** 3/6/09

Project Manager: Rachel Whitby

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results are reported on a wet weight basis.

As a valued client we would appreciate your comments on our service.
Please call customer service at (412)826-5245 or email customerservice@microseeps.com.

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Case Narrative: The total manganese analysis was performed by Pace Analytical Services
The ferrous iron analysis was initially performed on 2/26/2009. The sample required reanalyses at a dilution because of poor chromatography and irregular peak shapes. The percent recoveries for the MS/MSD analyses for ferric iron and divalent manganese were outside of control limits. The RPD, LCS and all other QC analyses were acceptable.

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
HTSA-0197-HVW-002-0209	Water	P0902263-01	25 Feb. 09 13:55	26 Feb. 09 11:33

Analyte(s)	Flag	Result	PQL	Units	Method #	Analysis Date		By
WetChem								
N Divalent Manganese	UM	< 1.0	1	mg/L	Mod.7199	2/26/09	16:55	md
N Ferric Iron	UM	< 1.0	1	mg/L	Mod.7199	2/26/09	16:55	md
N Ferrous Iron	J	0.7	2.0	mg/L	Mod.7199	3/5/09	16:38	md
Metals								
Manganese	L	0.430	0.005	mg/L	6010B	3/2/09		pas
RiskAnalysis								
N Carbon dioxide		25.00	5.00	mg/L	AM20GAX	3/2/09		rw
N Methane		1.200	0.100	ug/L	AM20GAX	3/2/09		rw

Data Qualifiers: J - estimated value, U - Non detect, R - Poor surrogate recovery, M - Recovery/RPD poor for MS/MSD, SAMP/DUP, B - detected in blank, S - field sample as received did not meet NELAC sample acceptance criteria, L - Subcontracted Lab used, N - NELAC certified analysis

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Prep Method: In House Dissolved Gas Sample Preparation
Analysis Method: Light Hydrocarbons (C1-C4) in Water

M090302001-MB

	Result		TrueSpikeConc.	RDL	%Recovery	Ctl Limits
Methane	< 0.100	ug/L		0.100		- NA

M090302001-LCS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Methane	830.000	ug/L	822.80	101.00	75 - 125

M090302001-LCSD

	Result		TrueSpikeConc.	%Recovery	Ctl Limits	RPD	RPD Ctl Limits
Methane	840.000	ug/L	822.80	102.00	75 - 125	1.20	0 - 20

Outlined Results indicate results outside of Control limits

Data Qualifiers: J - estimated value, U - Non detect, R - Poor surrogate recovery, M - Recovery/RPD poor for MS/MSD, SAMP/DUP, B - detected in blank, S - field sample as received did not meet NELAC sample acceptance criteria, L - Subcontracted Lab used, N - NELAC certified analysis

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Prep Method: In House Dissolved Gas Sample Preparation
Analysis Method: Analysis of Dissolved Permanent Gases in Water

M090302002-MB

	Result		TrueSpikeConc.	RDL	%Recovery	Ctl Limits
Carbon dioxide	< 5.00	mg/L		5.00		- NA

M090302002-LCS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Carbon dioxide	120.00	mg/L	129.30	93.00	75 - 125

M090302002-LCSD

	Result		TrueSpikeConc.	%Recovery	Ctl Limits	RPD	RPD Ctl Limits
Carbon dioxide	120.00	mg/L	129.30	93.00	75 - 125	0.00	0 - 20

Outlined Results indicate results outside of Control limits

Data Qualifiers: J - estimated value, U - Non detect, R - Poor surrogate recovery, M - Recovery/RPD poor for MS/MSD, SAMP/DUP, B - detected in blank, S - field sample as received did not meet NELAC sample acceptance criteria, L - Subcontracted Lab used, N - NELAC certified analysis

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Prep Method: Mod. for Determination of Ferrous and Ferric
Analysis Method: Mod. for Determination of Ferrous and Ferric

M090303010-MB

	Result		TrueSpikeConc.	RDL	%Recovery	Ctl Limits
Ferrous Iron	< 1.0	mg/L		1.0		- NA
Ferric Iron	< 1.0	mg/L		1.0		- NA
Divalent Manganese	< 1.0	mg/L		1.0		- NA

M090303010-LCS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Ferrous Iron	9.2	mg/L	10.00	92.00	80 - 120
Ferric Iron	9.9	mg/L	10.00	99.00	80 - 120
Divalent Manganese	11.0	mg/L	10.00	110.00	80 - 120

P0902263-01A-MS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Ferric Iron	19.0	mg/L	10.00	190.00	70 - 130
Divalent Manganese	18.0	mg/L	10.00	180.00	70 - 130

P0902263-01A-MSD

	Result		TrueSpikeConc.	%Recovery	Ctl Limits	RPD	RPD Ctl Limits
Ferric Iron	19.0	mg/L	10.00	190.00	70 - 130	0.00	0 - 20
Divalent Manganese	18.0	mg/L	10.00	180.00	70 - 130	0.00	0 - 20

[ ] Outlined Results indicate results outside of Control limits

Data Qualifiers: J - estimated value, U - Non detect, R - Poor surrogate recovery, M - Recovery/RPD poor for MS/MSD, SAMP/DUP, B - detected in blank, S - field sample as received did not meet NELAC sample acceptance criteria, L - Subcontracted Lab used, N - NELAC certified analysis

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Prep Method: Acid Digestions of Aqueous samples and extracts for tc
Analysis Method: Inductively Coupled Plasma-Atomic Emission Spectrom

M090305007-MB

	Result		TrueSpikeConc.	RDL	%Recovery	Ctl Limits
Manganese	< 0.005	mg/L		0.005		- NA

M090305007-LCS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Manganese	0.510	mg/L	0.50	102.00	80 - 120

Outlined Results indicate results outside of Control limits

Data Qualifiers: J - estimated value, U - Non detect, R - Poor surrogate recovery, M - Recovery/RPD poor for MS/MSD, SAMP/DUP, B - detected in blank, S - field sample as received did not meet NELAC sample acceptance criteria, L - Subcontracted Lab used, N - NELAC certified analysis

Client Name: ZIA Engineering & Environmental
Contact: Brad Davis
Address: 755 S. Telshor Boulevard
Suite F-201
Las Cruces, NM 88011

Lab Proj #: P0902263
Report Date: 03/06/09
Client Proj Name: HELSF TSA Groundwater
Client Proj #: HELSF TSA Groundwater

Prep Method: Mod. for Determination of Ferrous and Ferric
Analysis Method: Mod. for Determination of Ferrous and Ferric

M090306010-MB

	Result		TrueSpikeConc.	RDL	%Recovery	Ctl Limits
Ferrous Iron	< 1.0	mg/L		1.0		- NA
Ferric Iron	< 1.0	mg/L		1.0		- NA

M090306010-LCS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Ferrous Iron	9.0	mg/L	10.00	90.00	80 - 120
Ferric Iron	9.3	mg/L	10.00	93.00	80 - 120

P0903054-01A-MS

	Result		TrueSpikeConc.	%Recovery	Ctl Limits
Ferrous Iron	9.2	mg/L	10.00	92.00	70 - 130
Ferric Iron	9.5	mg/L	10.00	95.00	70 - 130

P0903054-01A-MSD

	Result		TrueSpikeConc.	%Recovery	Ctl Limits	RPD	RPD Ctl Limits
Ferrous Iron	9.2	mg/L	10.00	92.00	70 - 130	0.00	0 - 20
Ferric Iron	9.5	mg/L	10.00	95.00	70 - 130	0.00	0 - 20

Outlined Results indicate results outside of Control limits

Data Qualifiers: J - estimated value, U - Non detect, R - Poor surrogate recovery, M - Recovery/RPD poor for MS/MSD, SAMP/DUP, B - detected in blank, S - field sample as received did not meet NELAC sample acceptance criteria, L - Subcontracted Lab used, N - NELAC certified analysis

zia engineering & environmental consultants, llc
755 S. Telshor Blvd. Ste. F-201
Las Cruces, NM 88011
575-532-1526 p
575-532-1587 f

R0902263
097

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME	NO. OF CONTAINERS	ANALYSIS REQUESTED										REMARKS
	HELSTF TSA GROUNDWATER		CO2/Methane	MetalsSpeciation	FE,MN,Spec								
SAMPLER'S SIGNATURE													

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	CO2/Methane	MetalsSpeciation	FE,MN,Spec	REMARKS
2-05-09	1355	HTSA-0197-HVW-002-02 09	WATER		5	X	X	X	

PROJECT INFORMATION	SAMPLES RECEIVED	1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS	(PRINTED NAME): GABRIEL GARCIA	(PRINTED NAME)	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY)
VIA: Lab Courier	GOOD CONDITION/COLD	(TIME/ DATE)	(TIME/ DATE)	(TIME/ DATE)
	CONFORMS TO RECORD	SPECIAL INSTRUCTIONS/COMMENTS:		

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY